TRENT Summer School 2022

on

Lake Environment and Ecology

Organized by

Karlsruhe Institute of Technology (KIT)

And

Jiangnan University (JU)

ASSOCIATED PARTNERS:

WELCOME!

The Transnational Competence Center for Environmental Technology and Research Jiangsu (TRENT) and Jiangnan University (JU) invite you to the first Sino-German Summer School, hosted by both Karlsruhe Institute of Technology (KIT) and JU via Zoom virtual meeting room.

About TRENT

TRENT is established by the four driving forces, Karlsruhe Institute of Technology (KIT), the State Agency for Environmental Technology and Resource Efficiency Baden-Württemberg (UTBW), the Global Advanced Manufacturing Institute in Suzhou, and Baden-Württemberg international office in Nanjing, China. TRENT headquarter is located in Suzhou, Jiangsu Province, China. TRENT jointly develops solutions for a green and sustainable world and makes science and technology accessible and useful for now and for future generations. More information on TRENT.

About KIT

The Karlsruhe Institute of Technology (KIT) is "The Research University in the Helmholtz Association." As the only German university of excellence with a national large-scale research sector, we offer our students, researchers, and employees unique learning, teaching, and working conditions. The roots of the academic education institution extend all the way back to 1825. Today's structure of KIT is the result of the merger of the Technical University of Karlsruhe and Karlsruhe Research Center in 2009. More information on KIT.

About JU

Jiangnan University (JU), situated in Wuxi nearby the beautiful Taihu Lake, is a national "211 Project" key university and is selected "First-Class Discipline Project", falling under the Ministry of Education of the People's Republic of China. Known as "the pearl of China 's higher education in light industry", Jiangnan University has launched a new journey toward the strategic objective of "building itself into a research-driven university with distinctive characteristics", abiding by the motto of "learning and practice to perfection". More information on JU.

About TRENT Summer School

Very few educational exchanges are carried out between Germany and China under the current COVID-19 pandemic situation. In order to nonetheless promote more activities between experts and students in Germany and China, the TRENT Summer School takes place in July 2022 and addresses different elements of the entire lake ecological system, from sedimentary, surface water, ecotoxicology, as well as water policies in both countries. Throughout the lectures and workshops, students learn and experience relevant theoretical background and specific application perspectives for each of the topics.

The particular research topics in the lake sciences will be taught by scientific experts from Germany and China, who have rich research experiences in the Taihu Lake area. In addition, the civil society and politics in the area of water system in Germany and China will be introduced by invited experts.

Introduction of program

The TRENT Summer School on Lake Environment and Ecology will be held on 18th – 22nd of July 2022. This Summer School addresses different elements of the entire Taihu lake ecological system, from sedimentary, surface water, Ecotoxicology, as well as the water policies in both countries. Through the lectures and workshops, students learn and experience the theory and the application perspectives for each of the topics.

The particular research topics in the Lake sciences will be taught by scientific experts from Germany and China, who have rich research experiences in the Taihu Lake area. In addition, the civil society and politics of water system in Germany and China will be introduced by invited experts.

Target group of this year's Summer School are master students and PhD freshmen, who are enrolled at KIT and JU, as well as relevant students and PhDs from TRENT partner universities in Baden-Württemberg respectively. Maximum number of participants is limited to 30 students and PhDs (German and Chinese students and PhDs together). All students will get a certification of participation of this Summer School. During the program period, one team project will be carried out among the students and excellent project reports will be rewarded.

The Summer School will be complemented by cultural and social events, contributing to Sino-German friendship.

Period and time:

Period: 18th – 22nd, July 2022 (Lectures), 1st, August 2022 (Students´ seminar)

Content: 16 hours lectures + 5 hours interactive/culture exchange + 3 hours presentation

Venue: Online, Zoom Meeting

Program:

DAY 1: **Opening session and Lectures | 18.07.2022** **Moderator: Dr. Xiaohui Tang**	
CET 08:00-08:05 **CST 14:00-14:05**	**Welcome Speech** Oliver Schmidt, Karlsruhe Institute of Technology
CET 08:05-08:10 **CST 14:05-14:10**	**Welcome Speech** Director Prof. ZHOU Peng, Jiangnan University
CET 08:10-08:20 **CST 14:10-14:20**	**Introduction of TRENT project** Prof. Frank Schultmann, Karlsruhe Institute of Technology
CET 08:20-08:30 **CST 14:20-14:30**	**Introduction of SIGN Project** Dr. Günter Subklew, German Technology Center of Water
CET 08:30-08:45 **CST 14:30-14:45**	**Introduction of Summer School** Prof. LIU He, Jiangnan University
CET 08:45-09:40 **CST 14:45-16:00**	**Ice Breaking** Student self-introduction by PPT
Break	
CET 10:00-11:30 **CST 16:00-17:30**	**Lecture: Remote sensing technologies for surface water analysis** Dr. Andreas Schenk, Karlsruhe Institute of Technology
Break	
CET 13:00-14:30 **CST 19:00-20:30**	**Lecture: Internal release and bloom effects of nutrient in a large and shallow Lake Taihu, China.** Prof. ZHU Guangwei, Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences

DAY 2: **Lectures and Culture exchange | 19.07.2022** **Moderator: ZHU Xiaohong**	
CET 08:00-09:30 **CST 14:00-15:30**	**Lecture: Microorganisms in rivers and lakes** Prof. LI Yi, Hohai University
CET 09:40-11:10 **CST 15:40-17:10**	**Lecture: Analysing physico-biogeochemical dynamics of fresh water systems for pollution source identification and algal growth processes** Prof. Stefan Norra, University of Potsdam, Andre Wilhelm, Karlsruhe Institute of Technology
Break	
CET 12:30-13:30 **CST 18:30-19:30**	**Lecture: Constructed wetland for water quality improvement and aquatic ecosystem restoration** Prof. CHENG Shuiping, Tongji University
CET 13:30-14:30 **CST 19:30-20:30**	**Culture exchange: Introduction of the studying and living in Germany and German universities** Iris Jesske, International student office, Karlsruhe Institute of Technology

DAY 3: **Lectures and Culture exchange | 20.07.2022** **Moderator: Dr. ZHANG Yan**	
CET 09:00-10:30 **CST 15:00-16:30**	**Lecture: The mechanisms and the mitigating strategies of cyanobacterial bloom** Prof. SHI Xiaoli , Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences
CET 10:40-12:10 **CST 16:40-18:10**	**Lecture: Methods for the investigation of microbiological processes and antibiotic resistances in Lake Tai** Prof. Andreas Tiehm, Lara Stelmaszyk, German Technology center of Water
Break	
CET 13:30-14:30 **CST 19:30-20:30**	**Culture exchange: The Story of Chinese Characters** Dr. HU Yuanyuan, Jiangnan University

DAY 4: **Lectures and Culture exchange | 21.07.2022** **Moderator: Andre Wilhelm**	
CET 09:00-10:30 **CST 15:00-16:30**	**Advancement of treatment and resource recovery of lake algae waste** Prof. LIU He, Jiangnan University
CET 10:40-12:10 **CST 16:40-18:10**	**Lecture: Ecotoxicology in the surface water system** Prof. Henner Hollert, Dr. Andreas Schiwy, Goethe University Frankfurt
Break	
CET 13:30-14:30 **CST 19:30-20:30**	**Culture exchange: Introduction of the Baden-Baden and as a scenic city amid Baden-Württemberg black forest** Ms. Cornelia Stahr, Head of Global Marketing, Baden-Baden Kur & Tourismus GmbH

DAY 5: **Lectures and Culture exchange | 22.07.2022** **Moderator: CHEN Feiran**	
CET 09:00-10:30 **CST 15:00-16:30**	**Lecture: Surface water protection policy in Germany and EU** Dr. Tim aus der Beek, Cora Schmid, IWW water center Mühlheim
CET 10:40-12:10 **CST 16:40-18:10**	**Lecture: Practice and thinking of cyanobacterial bloom management in Taihu Lake** Deputy Director, Lan Xiukai, Wuxi water conservancy bureau, China
Break	
CET 13:30-14:30 **CST 19:30-20:30**	**Culture exchange: My Name is Weirdo Ni – Appreciation of Chinese Landscape Painting** Dr. HU Yuanyuan, Jiangnan University

DAY 6:
Student presentation and Closing session | 01.08.2022
Moderator: TANG Xiaohui

CET 9:00-12:00 **CST 15:00-18:00**	**5 Presentations from student team, reviewed by professors Topics of Students´ Seminar:** Topic 1: Are lakes sinks or sources for climate active gases? Prof. Stefan Norra and Andre Wilhelms Topic 2: How did cyanobacterial bloom change the nitrogen and phosphorus behaviors in large shallow lakes like Lake Taihu? Prof. ZHU Guangwei Topic 3: Heavy metal and nutrient concentration and mobility in Lake Taihu, Prof. Andreas Tiehm and Lara Stelmaszyk Topic 4: Potential technology for resource recovery from algae waste, Prof. LIU He and Dr. Zhang Yan Topic 5: Remote sensing technologies for surface water analysis, Dr. Andreas Schenk
Break	
CET 13:30-14:30 **CST 19:30-20:30**	**Closing Ceremony:** • Project summary • certification stamped by KIT and Jiangnan University • Closing Speech Dean of School of Environmental Science and Engineering, Suzhou university of science and technology

List of lectures (order by country of origin):

Side	Experts	Organization	Topic
German	Prof. Stefan Norra and Andre Wilhelms	Karlsruhe Institute of Technology (KIT) & University of Potsdam	Water online monitoring systems
	Prof. Andreas Tiehm and Lara Stelmaszyk	German Technology center of Water (TZW)	Water microbiology
	Dr. Tim aus der Beek and Cora Schmid	IWW water center Mühlheim	Water policy in Germany and EU
	Prof. Henner Hollert	Goethe University Frankfurt	Ecotoxicology
	Dr. Andreas Schenk	Karlsruhe Institute of Technology (KIT)	Remote sensing technologies for surface water analysis
China	Prof. ZHU Guangwei	Nanjing Institute of Geography and Limnology, CAS	Lake Sediment Research
	Prof. LI Yi	Hohai University	Microorganisms in rivers and lakes
	Prof. SHI Xiaoli	Nanjing Institute of Geography and Limnology, CAS	The mechanisms and the mitigating strategies of Cyanobacterial blooms
	Prof. LIU He	Jiangnan University	Taihu Lake algae waste resource recovery
	Prof. CHENG Shuiping	Tongji University	Constructed wetland for water quality improvement and aquatic ecosystem restoration
	Deputy Director LAN Xiukai	Wuxi Water Conservancy Bureau	Practice and thinking of cyanobacterial bloom management in Taihu Lake

List of Culture exchange (order by country of origin):

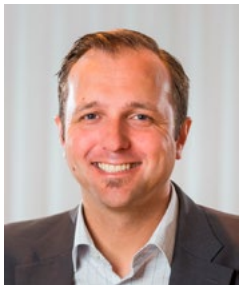
Side	Experts	Organization	Topic
German	Iris Jesske	International student office, Karlsruhe Institute of Technology	Introduction of the studying and living in Germany and German universities
	Cornelia Stahr	Head of Global Marketing, Baden-Baden Kur & Tourismus GmbH	Introduction of Baden-Baden as a scenic city amid Baden Württemberg's Black Forest
China	Dr. HU Yuanyuan	Jiangnan University	The Story of Chinese Characters
	Dr. HU Yuanyuan	Jiangnan University	My Name is Weirdo Ni – Appreciation of Chinese Landscape Painting

Introduction of the experts and working groups (in alphabetical order)

Prof. CHENG, Shuiping

CHENG Shuiping, Ph.D, professor in the College of Environmental Science and Engineering, Tongji University. He got bachelor degree from Wuhan University in 1991, master degree from Chinese Academy of Sciences, Institute of Hydrobiology in 1996, Ph.D from Cologne University in 2002. His research interests are ecological engineering (including constructed wetland and phytoremediation), and waters restoration. CHENG Shuiping published more than 200 peer-reviewed papers, 35 patents and obtained 10 national and/or provincial science and technological awards.

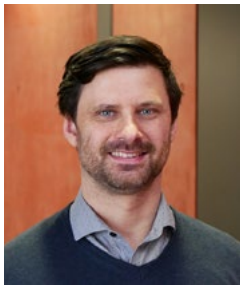
Dr. Tim aus der Beek



Tim aus der Beek has studied hydrology in Freiburg (Germany) has received his PhD on water resources management from Heidelberg University (Germany). Since 2012, Tim is employed at the German IWW Water Centre, now head of the Department „Water Resources Management".

His current research questions deal with organic pollutants in the aquatic environment, climate change impacts, water resources management and water quality issues in general. He has acquired multiple research grants from various national and international organizations. Tim is also author of more than 30 water related publications.

Prof. Dr. Henner Hollert und Dr. Andreas Schiwy



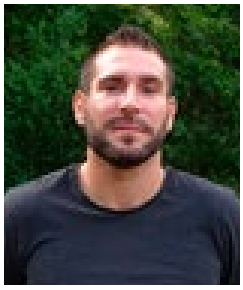
The exposure of humans and the environment to chemicals is becoming an increasingly important issue in society and plays an important role in premature deaths, climate change, and the destruction of ecosystems (e.g., using hazardous pesticides). Environmental toxicology is concerned with the harmful effects of chemical substances on ecosystems and their impact on humans. Currently, water quality evaluation is based on chemical analysis of Priority Substances (PS) to assess the chemical status, as well as distinct sets of River Basin-Specific Pollutants specified nationally, with a total of approximately 300 in the various EU member states. These compounds have been shown to represent only a (site-specific and generally unknown) fraction of the overall chemical risk, and combination concerns are not taken into account. As a result, the existing technique is insufficient for estimating the risk that chemical contamination may impair human health or aquatic ecosystems, as well as developing plans to mitigate chemical pollution's effects. As a result, the challenge is to characterize chemical pollution in a comprehensive way with limited resources, so that the impact of chemical pollution can be diagnosed, risks to ecosystems and human health can be avoided, resources for safe drinking water production can be protected with low treatment costs, and improvements can be monitored through programs of measures. Effect-based methods (EBM) are bioanalytical procedures that detect and quantify the effects of groups of chemicals on toxicological endpoints of concern utilizing the reaction of entire organisms (in vivo) or cellular bioassays (in vitro). EBMs are useful for detecting the impacts of compound mixtures in water resources and demonstrating their ability to affect aquatic life and human health. Furthermore, EBMs reduce the chance of missing dangerous compounds, transformation products, and chemical combinations. They can be used to detect pollution hotspots as well as for investigative monitoring. EBMs can also assist in identifying risk drivers and prioritizing them for management strategies. As a result, it is possible to correlate the chemical and ecological status using EMBs.

Prof. LI Yi

Dr. Yi Li is a professor at the college of Environment of Hohai University. He obtained his B.S. and M.Eng from Dalian University of Technology and Ph.D from National University of Singapore. Later he worked as a post-doc at Tsinghua University. He is an expert in wastewater treatment and aquatic environment ecological remediation, with long-term research interests in the fluvial microbial ecology impacted by anthropogenic activities, as well as efficient utilization of unconventional water resources. He has been holding national scientific research fundings including National Key Research and Development Program, National Science and Technology Major Project, as well as National Natural Science Foundation-Outstanding Youth Foundation. In addition to the topics noted above, Dr. Yi Li has published more than 220 SCI papers related to fluvial microbial ecology, utilization of unconventional water resources and wastewater treatment technology. He has been awarded with 12 prizes including second prize of the National Technological Invention Award, the first prize of the Invention Entrepreneurship Award of China Invention Association, and China Industry-University-Research Cooperation Innovation Award. He has been selected into the top 2% of the world's top scientists and nominated into the prolific author list of <Water Research> from 2019 to 2021.

Prof. Stefan Norra & Andre Wilhelms

Chair of Soil Science and Geoecology, University of Potsdam



Scientific assistent, Karlsruher Institut of Technology KIT

The working group combines ecological, biogeochemical and environmental physical process understanding to research environmental systems. Particular attention is paid to human-environment interactions, because anthropogenic activities determine the functionality of ecosystems, which in turn largely determines human health. Therefore, our research activities are strongly interdisciplinary and oriented at the interfaces of the compartments pedosphere, hydrosphere, atmosphere and biosphere. Specialized fields of work deal with soil formation and site ecology, soil and sediment mineralogy and chemistry, aerosol mineralogy and chemistry, aquatic biogeochemistry or hydrochemistry. Integrating cross-cutting issues are the determination of ecosystem services, urban and habitat ecology, landscape development and aspects of preventive soil protection.

Our research approach uses field and laboratory methods, such as mobile and stationary air quality measuring stations or water quality sensor systems, but also the possibilities of mass spectrometry and X-ray analysis. We have a soil and water chemistry laboratory and a soil physics laboratory. The evaluation of the results is process-oriented and models are applied and developed to specify and simulate complex interactions in environmental systems. The new knowledge is used to develop measures that ensure a healthy and sustainable environment. A target group-specific communication of the topics in public supports this process.

Dr. Andreas Schenk

Andreas Schenk is researcher at the Institute of Photogrammetry and Remote Sensing at Karlsruhe Institute of Technology (KIT). He received his PhD degree from faculty of Civil Engineering, Geo and Environmental Sciences at KIT. Since 2015 he is the scientific coordinator and manager of the Graduate School for Climate and Environment (GRACE). His major research interest are radar imaging systems and hyperspectral remote sensing with application to retrieval of geophysical parameters of the land surface and water bodies. He has been working on geophysical parameter inversion, water vapor tomography and time series analysis of space-borne SAR interferometry. In recent years, remote sensing of water quality parameters is a major topic, where he is involved in projects utilizing light-weight hyperspectral sensors and imaging cameras on UAVs and in close-range sensing setups to monitor optically active parameters of water bodies.

Prof. SHI Xiaoli

Dr. SHI Xiaoli is a professor (senior researcher) at Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences. Since 2014, She have been the vice dean of Lake Biology and Ecology Department in our institute. Since 2019, She is the council member of Chinese Society for alga. SHI Xiaoli is the editorial board member of Aquatic Ecology (2022-present) and Journal of Lake Sciences (2020-present). She has won the second prize on Science and Technology Award of Jiangsu Province in 2017.

SHI Xialoli has been working on phytoplankton ecology for more than 20 years. Her major research interest is eutrophication control and mitigating cyanobacterial nuisance. Her team provides the scientific supports to lake managers, regarding to the prediction on the spatial and temporal distribution of cyanobacterial blooms, as well as the development of mitigation strategy of algal bloom in lake and reservoir. Meanwhile, She is studying the diversity and the community structure of picophytoplankton in freshwater lakes. Isolation and pure culture, genome sequencing as well as transcriptomics are performed to understand the ecological adaptation mechanisms of picophytoplankton.

Ms. Cornelia Stahr

Cornelia Stahr is the Head of Global Marketing at the Baden-Baden Tourism Board. After studying International Tourism Management in Karlsruhe she worked for an outgoing Tour operator and joined the Baden-Baden Tourism Board in 2018. Since then she is representing the city of Baden-Baden nationally and internationally as a touristic destination. Mostly she is working together with international press, travel agents and tour operators all over the world to promote travelling to Baden-Baden.

Prof. Andreas Tiehm, Lara Stelmaszyk & Dr. Günter Subklew



The German Technology Center of Water (TZW) has extensive experience in the characterization of biodegradation processes and their use for the elimination of inorganic and organic contaminants from the water matrix from a large number of research projects and contract work. Of great importance is the existing knowledge with molecular biological investigations (e.g. PCR), the investigation of biodegradation processes in batch and column systems, the interpretation of biological isotope fractionation and toxicity tests as well as with the assessment of hydrochemical boundary conditions, which contribute to the process understanding of the biological processes.

Another focus of work at TZW is the PCR determination of hygienically relevant microorganisms and their origin (microbial source tracking) as well as antibiotic resistance genes. Within the framework of completed and ongoing BMBF projects (e.g. SIGN-2, SMART, PRiMaT, EDIT and AGRO), TZW has been involved in the development and optimization of quantitative PCR detection methods of viruses, bacteria, antibiotic resistance genes and microbial source tracking markers in the aquatic environment.

Both the equipment and the know-how for the investigation of biological degradation and transformation processes under aerobic and anaerobic conditions in batch and column systems are available.

Prof. LIU He

He Liu received his PhD degree from Zhejiang University, and once worked as a postdoc at Yale University for one year. He has been working at Jiangnan University since 2004, and became a professor in 2010. Research topics of his group include the blue algae waste treatment and resource utilization, sludge anaerobic treatment, and environmental microbial technology for pollution control. He is a member of the China Anaerobic Digestion Association and a member of Professional Committee of the Chinese Society for Environmental Microbiology, and a guest professor of National University of Galway, Ireland.

He has been holding more than 20 scientific research fundings, including National High Technology Research and Development Program, National Key Technology R&D Program, subject of National Water Pollution Control and Control Scientific and Technological Special Project, and National Natural Science Foundation of China. He has published more than 150 peer-reviewed papers, and been authorized more than 20 patents. He has won more than 10 prizes including a second prize of National Science and Technology Progress Award, a second prize of Science and Technology Progress Award of Ministry of Education.

Mr. LAN Xiukai

Mr. Lan Xiukai has served as the captain of the Yuanwang-3 and Yuanwang-4 surveying vessels for more than 8 years. Yuanwang-3 is one of the „Top Ten Famous Ships in China". He led Yuanwang-3 to the Atlantic Ocean, Indian Ocean, and Pacific Ocean more than 30 times, and performed more than 50 aerospace measurement and control missions. CCTV, Xinhua News Agency, and China National Radio and other news media have carried out special reports on many occasions. He has published more than 30 academic papers and two monographs of more than 300,000 words each. One of the published monographs, „A Practical Guide to the Preservation Technology of Ocean Vegetables", has made great contributions to the logistics support of ocean-going ships. He has successively won 4 science and technology progress awards and 4 national invention patents.

He has served as a Deputy Director of Wuxi Water Conservancy Bureau since 2017, in charge of Taihu Lake cyanobacteria salvage and management, water resources, water conservation and water pollution prevention and control. He has accumulated rich experiences of Taihu Lake cyanobacterial bloom management.

Prof. ZHU Guangwei

ZHU Guangwei received is PhD in Environmental Engineering and is a researcher at Nanjing Institute of Geography an Limnology (NIGLAS), member of the Chinese Academy of Sciences (CAS) and director of Taihu Laboratory for Lake Ecosystem Research.

Research Professor at NIGLAS, Ph.D of Environmental Engineering. Researcher of Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences. Director of Taihu Laboratory for Lake Ecosystem Research. His research interests are: Nutrient cycling in lakes, cyanobacterial bloom mechanism, and ecological monitor technology in freshwater.

Application

REQUIREMENTS:

- Enrollment as Master or PhD student at Karlsruhe Institute of Technology (KIT) and TRENT partner universities (KIT, Jiangnan University, Nanjing University of Science and Technology, Nanjing University of Technology, Hohai University, Suzhou University of Science and Technology, as well as Sino-German Network (SIGN)).
- Good command of English (Summer School will be held in English)
- Environmental studies related major
- Commitment to participate in the entire program
- Interest in Sino-German cooperation and cultural exchange

HOW TO APPLY

Places in the Summer School are limited to 30 participants, who will get a Karlsruhe Institute of Technology (KIT) certification of participation for this Summer school. The application deadline is 30. June 2022.

There will be a selection process based on the documents you have submitted. There is no registration fee for the participants. If you are interested in this program, please e-mail your CV with following documents in English to trent@kit.edu for application:

- Curriculum vitae (max. 2 pages) including the following information: date of birth, university you are currently enrolled in, field of study, study level.
- Indication of English level.

APPLY NOW FOR YOUR SPOT IN THE TRENT SUMMER SCHOOL 2022!

Associated partner (in alphabetical order)

DFIU (French-German Institute for Environmental Research)

The DFIU was established in 1991 as a research institution with the mandate to sustain the widespread wish of France and Germany for strengthening the cross-border scientific cooperation in the field of environmental research. Since then, our ambition is to be one of the central scientific players in the area of French-German and international environmental research. The DFIU works closely with the Institute of Industrial Production (IIP) of KIT. The scientific staff is qualified in the fields of energy economics (chair of Prof. Dr. Wolf Fichtner), production and operations management (chair of Prof. Dr. Frank Schultmann), and environmental research. More information on DFIU.

GRACE (Graduate School of the Centre for Climate and Environment)

The Graduate School for PhD students of the KIT-Center Climate and Environment at the Karlsruhe Institute of Technology (KIT). It is the goal of GRACE to provide to its students not only highly specialized and interdisciplinary knowledge but also important key skill qualifications. Due to the obtained qualifications and management knowledge the graduates of GRACE will be prepared optimally for a future career in the fields of science and business. Moreover, they will be put in the position to be able to start a new business. Besides training students to cope with complex challenges in research and management GRACE is also going to encourage international networking. To achieve this task, trips abroad, Summer Schools or a block course in management at ESADE Business School Barcelona are going to be funded. More information on GRACE.

Hohai University

Hohai University is a state key university under the direct administration of the Ministry of Education of China, and is on the State "211 Project". It is a comprehensive university with research and study of water resources as its main focus, education of engineering subjects as its first priority, and coordinated development of a wide array of disciplines, ranking among China's top universities in its teaching indexes and overall strength. Nowadays, HHU offers 71 undergraduate programs, 205 master programs, 66 PhD programs and has16 post-doctoral stations. The discipline of Hydraulic Engineering and Environmental Science and Engineering were selected by the State Government to be on the Double Firs-Class Program in 2017.Civil Engineering and Environmental Science & Engineering rank top 10 in China. More information on Hohai University.

Nanjing Tech University

Nanjing Tech University, located in the historic city of Nanjing, China, is one of the first batch of 14 universities of the Higher Education Innovative Capacity Promotion Plan („2011 Plan" for short) in China, a key institution of higher learning in Jiangsu Province, and one of the first group of institutions of higher learning approved by the Chinese Ministry of Education for the training of „Excellent Engineers". NanjingTech is ranked 55th in the Chinese mainland universities in ESI 2022 (March).Among Chinese mainland universities, NanjingTech is ranked 38th in Nature Index 2022 (March), 57th in Times Higher Education World University Rankings 2022 and 54th in Shanghai Ranking's Academic Ranking of World Universities 2022. NanjingTech has 7 national scientific research platforms in the fields of chemistry, materials, flexible electronics, biotechnology, membrane, etc. More information on Nanjing Tech.

Nanjing University of Science and Technology

From its founding in 1953, Nanjing University of Science and Technology (NJUST) has been committed to the construction of a dynamic and forward-thinking university with expertise in the sciences and engineering. Over the past seven decades, the university has grown into a leading comprehensive university ranking 33 in China. Our students, faculty, alumni and staff stand out for their commitment to academic excellence, vibrancy, and creative innovation. As a member of "Double First-class" universities, NJUST continues to strive for state-of-the-art research, discovery, creativity and vigorous intellectual exchange. NJUST is dedicated to the fulfillment of its mission to provide the best possible educational experience and research opportunities for both students and academic staff through excellent teaching, research, innovative activity, and service to the nation and society. More information on NJUST.

SIGN

The Sino-German research project SIGN contributes towards improving water quality in the Taihu region close to Shanghai, China. From 2015 to 2018 the powerful project consortium of research facilities, companies and concerned stakeholders worked on both - the lake water itself serving as water resource and the drinking water for the megacities Wuxi and Suzhou (SIGN I). In the second phase (SIGN II) the Chinese and German partners continue and extend the activities of SIGN in order to successfully manage the challenging research tasks of the SIGN II project. The research project takes into account the whole water cycle: 1) competent management of water resources; 2) adapted monitoring strategies; 3) capable water treatment process; 4) efficient distribution of the drinking water. More information on SIGN.

Suzhou University of Science and Technology

Suzhou University of Science and Technology (SUST) is a full-time university with a focus on engineering and co-ordinated development of engineering, science, humanities, management and art. It is an excellent university in the evaluation of undergraduate teaching level by the Ministry of Education. SUST now has 24 scientific research platforms at or above the provincial level, including the National and local Joint Engineering Research Center, the Key Laboratory of Jiangsu Province, and the Key research base of Philosophy and Social Sciences of Jiangsu Universities. The university has established cooperative relations with nearly 80 universities and research institutions in more than 20 countries and regions. More information on SUST.

Tongji University

Tongji University, one of China's earliest national key universities, is a prestigious institution of higher education that is directly under the Ministry of Education (MOE) and is supported by the Shanghai Municipality. Already in its second centenary, the University has grown into a comprehensive and research-intensive university with distinctive features and an international reputation. The University was among the 36 Class A universities in the list of Double First Class University Plan released by the central government of China in 2017. According to 2019 Global Universities Rankings by US News & World Report, Tongji University ranks 11th in the Country Rank of China and 35th in Best Global Universities in Asia. More information on Tongji.